WEBER STATE UNIVERSITY
BUILDINGS #1 TO #4
UTILITY TUNNEL LID REPLACEMENT

DFCM PROJECT NO. 05010810
OGDEN, UTAH 84408 RM#: IWSU

State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building/Salt Lake City, Utah 84114/538-3018

DRAWING INDEX

STRUCTURAL PLANS

FARLEY ENGINEERING, L.L.C.
STRUCTURAL ENGINEERING CONSULTANTS
1917 EAST OSAGE ORANGE AVE.
HOLLADAY, UTAH 84124
farleyeng@qwest.net
Ph: (801) 274-3151
Fx: (801) 274-3150

OWNER INFORMATION

DFCM
4110 STATE OFFICE BUILDING
SALT LAKE CITY, UTAH 84114

PROJECT DESCRIPTION

UTILITY TUNNEL LID
LID REPLACEMENT
WEBER STATE UNIVERSITY
OGDEN, UTAH RM#IWSU

SHEET NAME:

COVER SHEET

REVISIONS

MARK	DATE	DESCRIPTION

ISSUE DATA

PROJECT NUMBER:	05011
ISSUE DATE:	04/25/05
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CHECKED BY:	DMF

SHEET NUMBER:

G000

GENERAL

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.

3. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISH STRUCTURE. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

4. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND SEQUENCES OF PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

5. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.

6. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S INSTRUCTIONS AND REQUIREMENTS.

7. LOADING APPLIED TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADINGS USED IN THE DESIGN OF THIS STRUCTURE ARE INDICATED IN THE "DESIGN CRITERIA NOTES". DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACING IS IN PLACE.

8. ALL ASTM AND OTHER REFERENCES ARE PER THE LATEST EDITIONS OF THESE STANDARDS, UNLESS OTHERWISE NOTED. SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR BEFORE SUBMITTAL. THE ENGINEER'S REVIEW IS TO BE FOR CONFORMANCE WITH THE DESIGN CONCEPTS AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSION, ETC.

9. SUBMIT SHOP DRAWINGS IN THE FORM OF TWO SETS OF PRINTS AND ONE SET OF REPRODUCIBLE DRAWINGS TO BE USED AS SHOP DRAWINGS. AS A MINIMUM, SUBMIT THE FOLLOWING ITEMS FOR REVIEW:
   a. CONCRETE MIX DESIGN(S).
   b. REINFORCING STEEL SHOP DRAWINGS.
   c. STRUCTURAL STEEL SHOP DRAWINGS.
   d. METAL DECKING SHOP DRAWINGS.

   OTHER SUBMITTALS MAY BE REQUIRED PER THE "SPECIAL INSPECTION" NOTES CONTAINED HEREIN.

10. CONTRACTORS SHALL VISIT THE SITE PRIOR TO BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT THE WORK OR COST THEREOF.

DESIGN CRITERIA NOTES

1. THE INTENDED DESIGN STANDARDS AND/OR CRITERIA ARE AS FOLLOWS:
   a. GENERAL CODE — 2003 INTERNATIONAL BUILDING CODE (IBC 2003)
   b. CONCRETE — ACI 318-02
   c. STRUCTURAL STEEL — AISC ASD ninth edition
   d. METAL DECK — SDI latest edition

2. DESIGN GRAVITY DEAD LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:
   a. FLOORS - TYPICAL — 5/5/5 psf
   b. ALL OTHERS — ACTUAL WEIGHT

3. DESIGN GRAVITY LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:
   a. FLOOR - TYPICAL — 100 psf

4. DESIGN LATERAL LOAD LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:
   a. SEISMIC LOADS
      i. SHORT PERIOD MAPPED SPECTRAL ACCELERATION — Ss = 1.767
      ii. 5% DAMPED DESIGN SPECTRAL RESPONSE ACCELERATION — Sds = 2/3 * Ie/R
      iii. SHORT PERIOD SITE COEFFICIENT — Fa = 1.0
      iv. SOIL SITE CLASS — D
      v. BUILDING SEISMIC DESIGN CATEGORY — D
      vi. W — STRUCTURE DEAD LOADS
      vii. BASE SHEAR — V = Cs*W = .0214W (strength design)

EXISTING CONSTRUCTION

1. BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING FACILITY, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH EXISTING STRUCTURAL AND OTHER CONDITIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACING, SHORING AND OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE EXISTING WORK IN A SAFE CONDITION DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING WORK WHICH ARE TO REMAIN.

2. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK TO THE EXISTING WORK. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER OF RECORD.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ERECTION OF ALL SHORING NECESSARY TO SAFEGUARD THE EXISTING STRUCTURE. THE SHORING SHOWN IS A PARTIAL AND SCHEMATIC REPRESENTATION OF THAT REQUIRED. THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN FOR SHORING, BRACING AND PROTECTION OF THE EXISTING CONSTRUCTION. THE PLAN SHALL INCLUDE A CONSTRUCTION SEQUENCE, BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATED THE PROJECT IS TO BE CONSTRUCTED IN AND BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO BEGINNING THE WORK.

CONCRETE

1. CONCRETE SHALL HAVE THE FOLLOWING MATERIALS UNLESS NOTED OTHERWISE:
   a. NORMAL WEIGHT AGGREGATE — ASTM C-33.
   b. REINFORCING STEEL — ASTM A-615,
      i. GRADE 60 — Fy = 60 ksi.
      ii. GRADE 40 — Fy = 40 ksi. (field bent dowels with spacings reduced by 1/3.)
   c. DEFORMED BAR ANCHORS (DBA) — ASTM A-496.
   d. HEADED STUD ANCHORS (HAS) — ASTM A-108.

2. ANCHOR BOLTS:
   a. GRAVITY BOLTS — ASTM A-307.
   b. HEAVY HEX NUTS & WASHERS — ASTM A-563.

3. ADMIXTURES:
   a. AIR ENTRAINMENT — ASTM C-260 (provide as specified in ACI 318)
   b. CEMENT TYPE (I OR II) — ASTM C-150
   c. CALCIUM CHLORIDE — NOT PERMITTED.
   d. ALUMINUM PRODUCTS — NOT PERMITTED

4. CONCRETE SHALL HAVE THE FOLLOWING COMPRESSIVE STRENGTHS:

CONCRETE	MINIMUM f'c (28 DAYS)	SLUMP	W/C RATIO
TOPPING SLAB	5000 psi	3" TO 5"	0.46
CONCRETE NOT NOTED	4000 psi	3" TO 5"	0.50

5. AT THE CONTRACTOR'S OPTION, AN APPROVED ADMIXTURE MAY BE USED TO PRODUCE FLOWABLE CONCRETE. MAXIMUM SLUMP SHALL NOT EXCEED 8 INCHES. THE CONTRACTOR SHALL SUBMIT TEST RESULTS OF THE PROPOSED CONCRETE MIXES ALONG WITH THE MANUFACTURER'S TECHNICAL DATA FOR APPROVAL PRIOR TO POURING CONCRETE.

6. THE CONTRACTOR IS ALLOWED TO HAVE ONLY ONE TYPE OF CONCRETE ON THE JOB SITE AT ONE TIME.

7. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE BUILDINGS". HOT WEATHER CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 305.

8. COLD WEATHER CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 306.

9. WELDING OF REINFORCING BARS IS NOT PERMITTED. REBAR SHALL NOT BE SUBSTITUTED FOR ANY OTHER TYPE OF REINFORCEMENT. SUBSTITUTION OF REINFORCING BARS OF ANY KIND SHALL BE AT THE ENGINEER OF RECORD'S WRITTEN CONSENT.

10. ALL REINFORCING STEEL SHALL BE SET AND TIED IN PLACE PRIOR TO POURING OF CONCRETE. DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED OR APPROVED BY THE ENGINEER OF RECORD.

11. REINFORCING STEEL, INCLUDING HOOKS AND BENDS, SHALL BE DETAILED IN ACCORDANCE WITH ACI 315. ALL REINFORCING STEEL INDICATED AS BEING CONTINUOUS (CONT.) SHALL BE LAPPED WITH A TYPE 2 LAP SPLICE UNLESS OTHERWISE NOTED.

12. UNLESS NOTED OTHERWISE, THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
   a. CONCRETE EXPOSED TO EARTH OR WEATHER:
      i. #6 THROUGH #18 BARS — 2"
      ii. #5 BAR, W31 OR D31 WIRE & SMALLER — 1 1/2"
   b. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO THE EARTH: — 3"

13. BAR SUPPORTS AND HOLDING BARS SHALL BE PROVIDED FOR ALL REINFORCING STEEL TO INSURE MINIMUM CONCRETE COVER. BAR SUPPORTS SHALL BE PLASTIC TIPPED OR STAINLESS STEEL.

14. FORM WORK SHALL COMPLY WITH THE REQUIREMENTS OF ACI STANDARD PUBLICATION #347 AND SHALL REMAIN IN PLACE UNTIL CONCRETE HAS OBTAINED AT LEAST 90% OF ITS 28-DAY COMPRESSIVE STRENGTH. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, DETAIL PLACEMENT AND REMOVAL OF ALL FORM WORK, SHORING AND RE-SHORING.

15. SLABS TO BE PERMANENTLY EXPOSED TO WEATHER SHALL BE AIR ENTRAINED AS SPECIFIED ABOVE.

16. CONSTRUCTION AND CONTROL JOINTS SHALL BE INSTALLED IN THE SLABS ON GRADE SO THAT THE LENGTH TO WIDTH RATIOS IS NOT MORE THAN 1.25 TO 1. CONTROL JOINTS SHALL BE COMPLETED WITHIN 12 HOURS OF THE PLACEMENT OF THE CONCRETE. CONTROL JOINTS SHALL BE CUT INTO THE SLABS OR TOOLED IN THE SLABS A DEPTH OF 1/4 THE DEPTH OF THE SLAB. INSTALL JOINTS IN THE SLABS ON GRADE AT A SPACING NOT TO EXCEED 30 TIMES THE SLAB THICKNESS OF THE SLAB IN ANY DIRECTION UNLESS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS. CONSTRUCTION JOINTS SHALL BE LIMITED TO A SPACING OF NOT MORE THAN 125'-0" IN ANY DIRECTION.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT AND LOCATION OF ANY AND ALL EMBED ITEMS INCLUDING PLATES, BOLTS, AND OTHER INSERTS SPECIFIED IN THE DRAWINGS. REINFORCING STEEL FOR PRECAST CONCRETE PANELS SHOWN ON THE DRAWINGS ARE FOR THE GRAVITY, SEISMIC AND WIND LOADS ONLY. LIFTING PROCEDURES OF ALL PRECAST PANELS SHALL BE THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR SHALL SUBMIT A COPY OF THE DESIGN CALCULATIONS AND SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR ALL PRECAST CONCRETE REINFORCEMENT AND LIFTING HARDWARE ASSOCIATED WITH HIS CHOSEN INSTALLATION PROCEDURE.

18. REFER TO THE "SPECIAL INSPECTION" SECTION OF THE GENERAL STRUCTURAL NOTES FOR ANY INSPECTION REQUIREMENTS.

EPOXY

1. THE CONTRACTOR SHALL USE ONE OF THE FOLLOWING EPOXIES OR AN APPROVED EQUAL:
   a. HILTI — HIT RE 500
   b. ADHESIVE TECHNOLOGY CORPORATION — ANCHOR IT
   c. POWERS RAWL — POWER-FAST
   d. RAMSET/REDHEAD — EPCON INJECTION SYSTEM

2. DRILL ALL HOLES 1/8" LARGER IN DIAMETER THAN THE INSTALLATION ANCHOR OR BAR SIZE.

3. CLEAN OUT HOLE WITH A WIRE BRUSH PRIOR TO BLOWING OUT THE HOLE WITH OIL FREE COMPRESSED AIR. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE HOLES ARE FREE OF ANY DUST, WATER OR DEBRIS OF ANY KIND.

4. THE CONTRACTOR SHALL FOLLOW THE MANUFACTURERS INSTALLATION INSTRUCTIONS FOR ALL EPOXY INSTALLATIONS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL HAVE THE FOLLOWING MATERIALS UNLESS NOTED OTHERWISE.

OTHER ROLLED SHAPES AND PLATES	ASTM A36
HEADED STUD ANCHORS (HAS)	ASTM A307 WITH ASTM A563 HEAVY HEX
DEFORMED BAR ANCHORS (DBA)	ASTM A496
ANCHOR BOLTS	ASTM A307
NUTS	ASTM A563 (heavy hex)
WASHERS	GRADE A (hardened)

2. THE FABRICATION AND CONSTRUCTION OF ALL STRUCTURAL STEEL SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING CODES:
   AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS.
   AISC CODE OF STANDARD PRACTICE EXCLUDING SECTIONS 3.4, 4.4, AND 4.4.1.
   AISC SPECIFICATIONS FOR STRUCTURAL JOINTS.
   AWS WELDING CODE.
   AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS.

3. ALL STRUCTURAL WELDING SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS:

WELDING RODS	E-70 XX (typical) E-60 XX (roof decks)
STRUCTURAL WELDING	AWS D1.1 (performed by AWS certified welder)
STRUCTURAL CUTTING	AWS CERTIFIED WELDER
MSA's/DBA's	MANUFACTURERS SPECIFICATIONS
REINFORCING BARS (REBAR)	DO NOT WELD REBAR
ANCHOR BOLTS	DO NOT WELD ANCHOR BOLTS (including tack welds)

4. ANY SUBSTITUTION OF ANY MEMBERS SHALL BE AT THE WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.

5. ANY CONNECTIONS OF INTERSECTING STEEL MEMBERS SHALL BE A FILLET WELD AND SHALL BE SIZED BY SUBTRACTING 1/16" LESS THAN THE THINNEST CONNECTING MEMBER WITH A MINIMUM OF A 1/4" FILLET WELD. ALL WELDS SHALL BE FULL SURFACE WELDS. WHEN IN DOUBT CONTACT THE ENGINEER.

6. HARDENED WASHERS SHALL BE PROVIDED AT ALL TURNED ELEMENTS OF BOLTED CONNECTIONS. IF THE CONNECTION IS SLOPED OR SKEWED THEN PROVIDE BEVELED WASHERS AS REQUIRED. PROVIDE WASHERS THAT COMPLETELY COVER ANY OVERSIZED HOLES OR SLOTS PER ASTM F-436.

7. DO NOT REUSE BOLTS, NUTS OR WASHERS.

8. HOLES IN STEEL SHALL BE DRILLED OR PUNCHED. ALL SLOTTED HOLES SHALL BE PROVIDED WITH SMOOTH EDGES. BURNING OF HOLES AND TORCH CUTTING AT THE SITE IS NOT PERMITTED.

9. THE STRUCTURAL STEEL ERECTOR SHALL PROVIDE ANY REQUIRED TEMPORARY GUYING AND BRACING REQUIRED. ANCHOR BOLTS, BASE PLATES, ETC. HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE NOT BEEN INVESTIGATED FOR POTENTIAL LOADINGS ENCOUNTERED DURING STEEL ERECTION AND CONSTRUCTION. ANY INVESTIGATION OF THE ANCHOR BOLTS, BASE PLATES, ETC. FOR ADEQUACY DURING THE STEEL ERECTION AND CONSTRUCTION PROCESS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

10. REFER TO THE "SPECIAL INSPECTION" SECTION OF THE GENERAL STRUCTURAL NOTES FOR ANY INSPECTION REQUIREMENTS.

METAL DECKING

1. ALL METAL DECK SHALL BE MANUFACTURED AND ERECTED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE STEEL DECK INSTITUTE.

2. WHERE THE DECK IS TO RECEIVE SPRAYED ON FIRE PROOFING, THE SURFACE SHALL PREPARED PROPERLY SO THAT THE FIREPROOFING ADHERES TO THE PAINTED DECK.

3. ALL DECK SUPPORTS SHALL BE DRY PRIOR TO WELDING DOWN THE DECK.

4. PRIOR TO WELDING INTERLOCKING SEAMS OR BUTTON PUNCHING, STEEL DECK SHALL BE CRIMPED PER THE MANUFACTURER'S SPECIFICATIONS.

5. ALL DECK SHALL SPAN A MINIMUM OF 1 CONTINUOUS SPANS.

6. STEEL FLOOR DECK
   a. STEEL FLOOR DECK SHALL BE 2" DEEP, 20 GAUGE MINIMUM PHOSPHATIZED/PAINTED COMPOSITE TYPE 'W' DECK WITH INTERLOCKING SIDE SEAMS WITH THE FOLLOWING PROPERTIES:

	20 GAUGE
MINIMUM S (in^3/ft.)=	0.361
MINIMUM I (in^4/ft.)=	0.423

   GALVANIZE ALL STEEL DECK ABOVE OR BELOW MECHANICAL EQUIPMENT ROOMS WITH G60 GALVANIZING.
   b. STEEL DECK WITH 2" THICK (3" OVERALL) NORMAL WEIGHT CONCRETE SLAB SHALL HAVE A MINIMUM DIAPHRAGM SHEAR CAPACITY OF 3030 lbs/ft. FOR A 3'-0" DECK SPAN.
   d. WELD STEEL FLOOR DECK TO SUPPORTING FRAMING MEMBERS WITH A 3/4" DIAMETER PUDDLE WELDS AT THE FOLLOWING SPACING (CLOSER SPACINGS MAY BE USED TO DEVELOP MINIMUM SHEAR REQUIREMENTS):
      i. 12" o.c. TO SUPPORTS PERPENDICULAR TO DECK CORRUGATIONS (4 WELDS PER 36" WIDE SHEET).
      ii. 12" o.c. TO ALL SUPPORTS PARALLEL TO DECK CORRUGATIONS.
   e. ATTACH INTERLOCKING SEAMS WITH 3/16" DIAMETER BUTTON PUNCH AT 18" o.c. OR 1 1/2" TOP SEAM WELD AT 36" o.c. BETWEEN ADJACENT DECK PANELS. CLOSER SPACING MAY BE USED TO DEVELOP MINIMUM SHEAR REQUIREMENTS.
   f. PROVIDE A MINIMUM OF 2 INCHES OF BEARING AT SUPPORTS.
   g. BUTT ALL END SPLICES.

SPECIAL INSPECTION

1. THE FOLLOWING ITEMS SHALL BE SPECIAL INSPECTED:

a. CONCRETE PLACEMENTS PER	IBC SECTION 1704.4
b. BOLTS INSTALLED IN CONCRETE	IBC SECTION 1704.4
c. CONCRETE REINFORCING STEEL PLACEMENT	IBC SECTION 1704.4
d. STRUCTURAL WELDING INCLUDING METAL DECK	IBC SECTION 1704.3
e. EPOXY ANCHORS	IBC SECTION 1701.3.13

2. THE SPECIAL INSPECTOR SHALL BE AN INDEPENDENT AGENCY HIRED BY THE OWNER UNLESS SPECIFICALLY INSTRUCTED OTHERWISE BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL COOPERATE IN EVERY WAY WITH THE INSPECTOR AND SHALL BE RESPONSIBLE FOR COORDINATING THE INSPECTIONS.

3. THE SPECIAL INSPECTIONS ARE REQUIRED BY THE IBC CODE SECTION 1704.

MARKS AND ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
AWSA	AMERICAN WELDING SOCIETY
BLW	BELOW
BRG	BEARING
BTWN	BETWEEN
C.J.	CONST. OR CONTROL JOINT
CONC	CONCRETE
CONT	CONTINUOUS
DBA	DEFORMED BAR ANCHOR
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EF.	EACH FACE
ELEV	ELEVATION
EQ	EQUAL
EW	EACH WAY
FL	FLOOR
FTG	FOOTING
GA	GAUGE
GAL	GALVANIZED
GR	GRADE
GSN	GENERAL STRUCTURAL NOTES
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
IN.	INCH
K	KIP = 1000 POUNDS
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
LBS	POUNDS
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NTS	NOT TO SCALE
O.C.	ON CENTER
OPP	OPPOSITE
PL	PLATE
PLF	POUNDS PER LINEAL FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REINF	REINFORCING
REQ'D	REQUIRED
SI	SPECIAL INSPECTION
SIM	SIMILAR
SOG	SLAB ON GRADE
SQ	SQUARE
STAG	STAGGERED
STL	STEEL
T&B	TOP AND BOTTOM
TEMP	TEMPERATURE
T.O.	TOP OF
TOC	TOP OF CONCRETE
TOW	TOP OF WALL
TYP	TYPICAL
IBC	INTERNATIONAL BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH

FARLEY ENGINEERING, LLC
STRUCTURAL ENGINEERING CONSULTANTS
1917 EAST OSAGE ORANGE AVE.
HOLLADAY, UTAH 84124
farleyeng@qwest.net
Ph: (801) 274-3151
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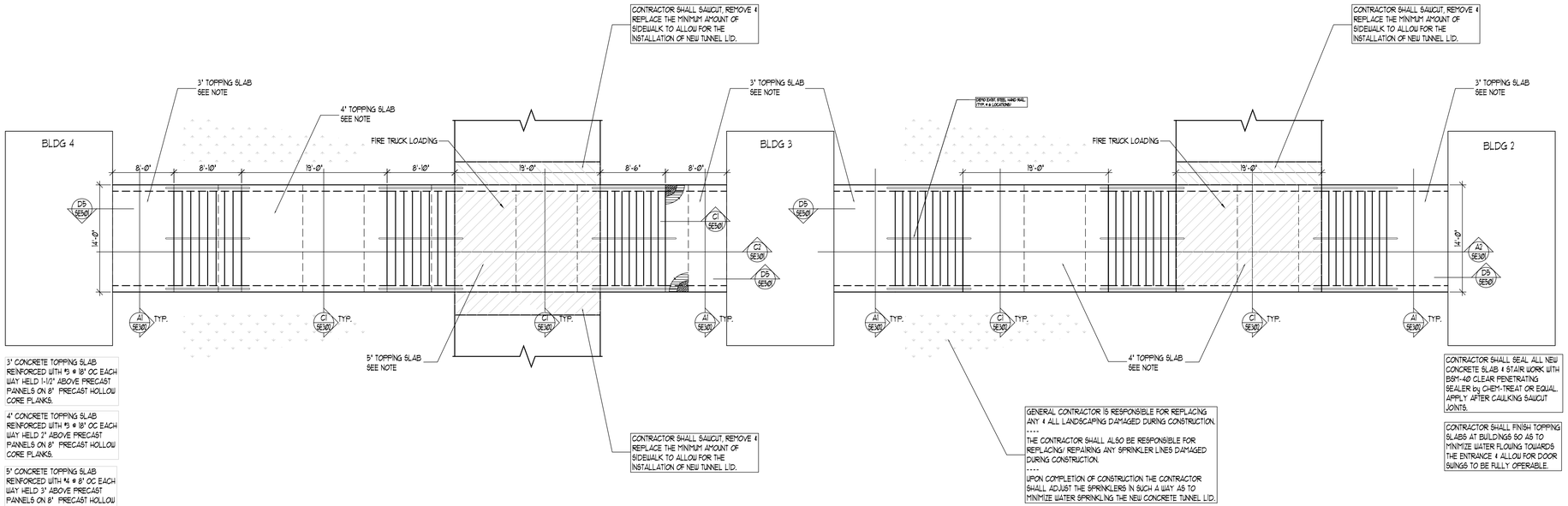

3" CONCRETE TOPPING SLAB REINFORCED WITH #3 @ 18" OC EACH WAY HELD 1-1/2" ABOVE PRECAST PANNELS ON 8" PRECAST HOLLOW CORE PLANKS.

4" CONCRETE TOPPING SLAB REINFORCED WITH #3 @ 18" OC EACH WAY HELD 2" ABOVE PRECAST PANNELS ON 8" PRECAST HOLLOW CORE PLANKS.

5" CONCRETE TOPPING SLAB REINFORCED WITH #4 @ 8" OC EACH WAY HELD 3" ABOVE PRECAST PANNELS ON 8" PRECAST HOLLOW CORE PLANKS.

GENERAL CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY & ALL LANDSCAPING DAMAGED DURING CONSTRUCTION.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REPLACING/ REPAIRING ANY SPRINKLER LINES DAMAGED DURING CONSTRUCTION.

UPON COMPLETION OF CONSTRUCTION THE CONTRACTOR SHALL ADJUST THE SPRINKLERS IN SUCH A WAY AS TO MINIMIZE WATER SPRINKLING THE NEW CONCRETE TUNNEL LID.

CONTRACTOR SHALL SEAL ALL NEW CONCRETE SLAB & STAIR WORK WITH BSM-40 CLEAR PENETRATING SEALER by CHEM-TREAT OR EQUAL. APPLY AFTER CAULKING SAWCUT JOINTS.

CONTRACTOR SHALL FINISH TOPPING SLABS AT BUILDINGS SO AS TO MINIMIZE WATER FLOWING TOWARDS THE ENTRANCE & ALLOW FOR DOOR SWINGS TO BE FULLY OPERABLE.

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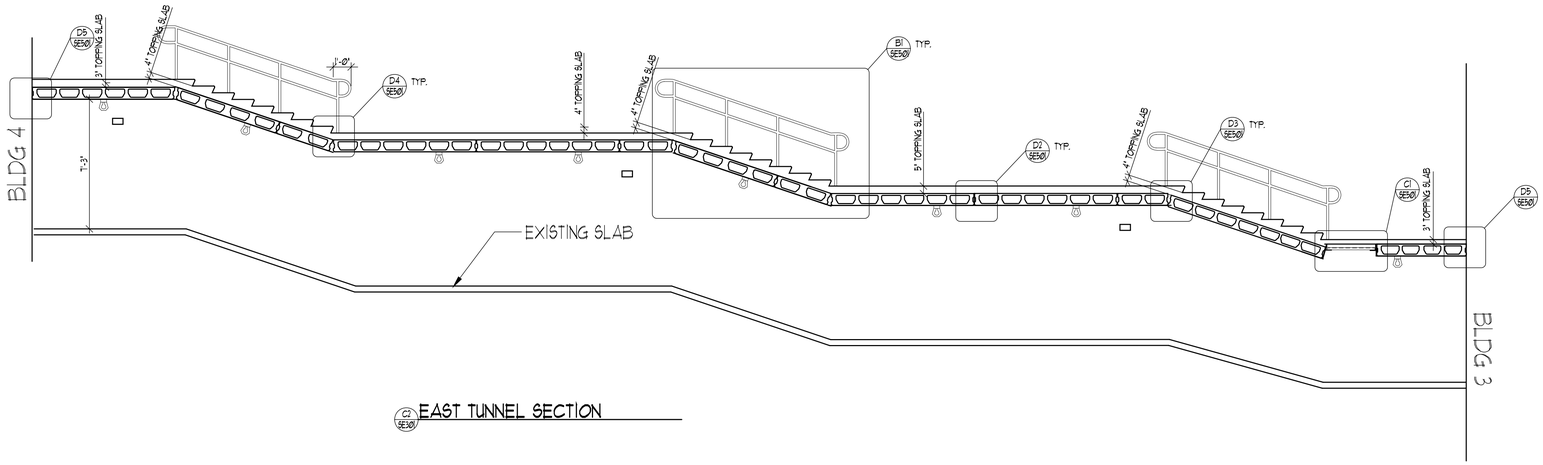
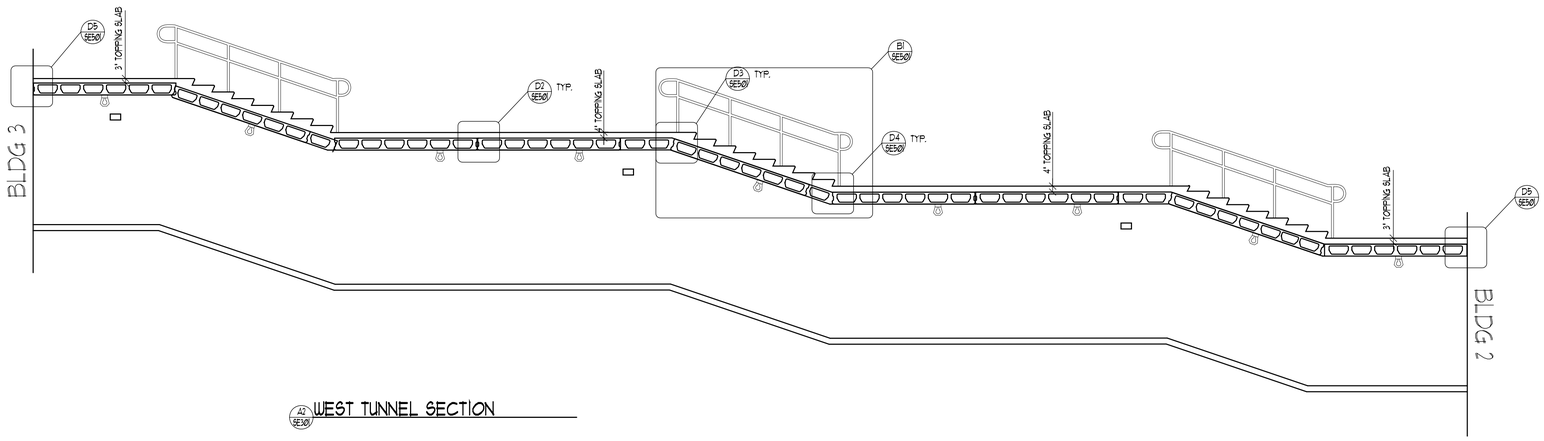


C2 SE301 EAST TUNNEL SECTION



A2 SE301 WEST TUNNEL SECTION

CONTRACTOR SHALL REPAIR ANY DAMAGED EXISTING TUNNEL VENTS.

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OGDEN, UTAH RM#IWSU

SHEET NAME:

TUNNEL SECTIONS

REVISIONS

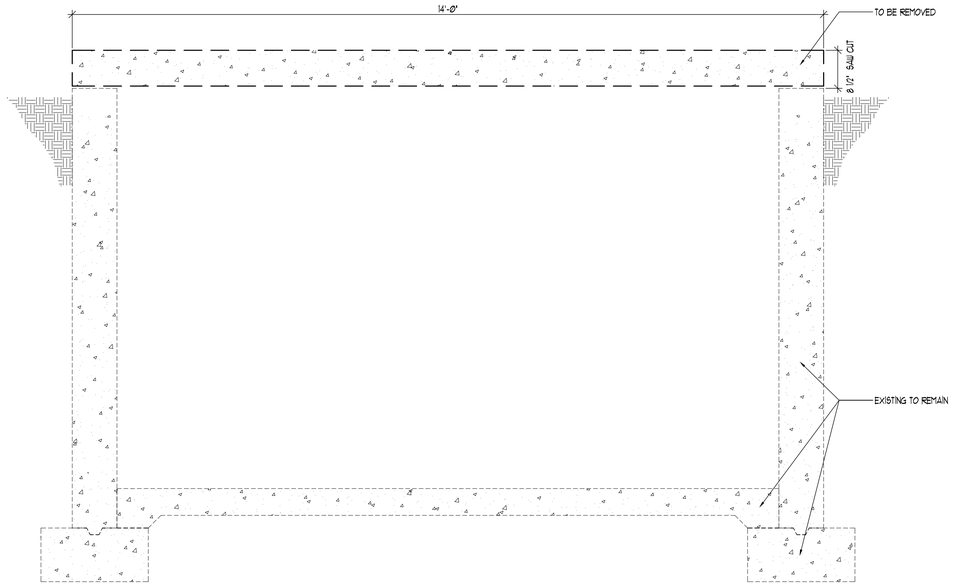
MARK	DATE	DESCRIPTION

ISSUE DATA

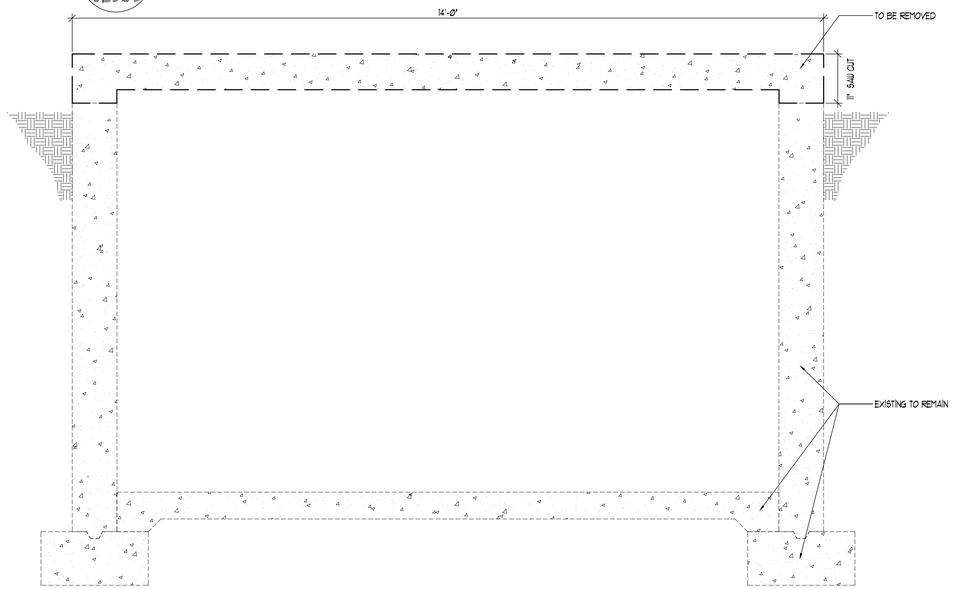
PROJECT NUMBER:	05011
ISSUE DATE:	04/25/05
DRAWN BY:	NT
CHECKED BY:	DMF

SHEET NUMBER:

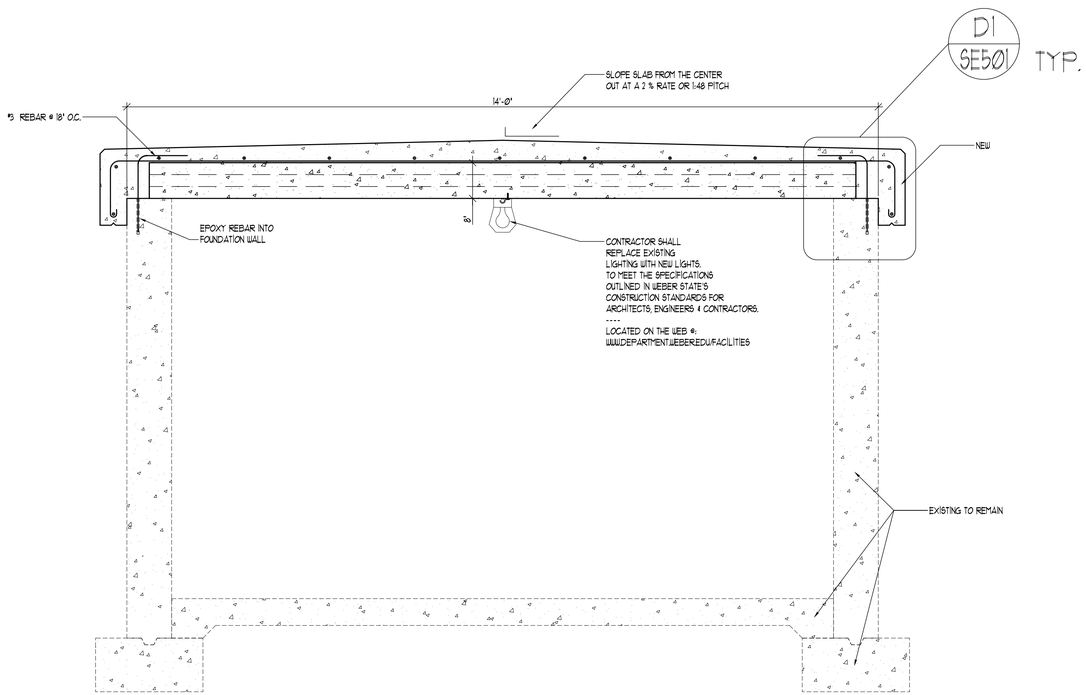
SE301



C1 / SE302 DEMO SECTION



A1 / SE302 DEMO SECTION



C4 / SE302 TUNNEL SECTION

FARLEY ENGINEERING, L/C
STRUCTURAL ENGINEERING CONSULTANTS
1917 EAST OSAGE ORANGE AVE.
HOLLADAY, UTAH 84124
farleyeng@qwest.net
Ph: (801) 274-3151
Fx: (801) 274-3150

OWNER INFORMATION
DFCM
4110 STATE OFFICE BUILDING
SALT LAKE CITY, UTAH
84114

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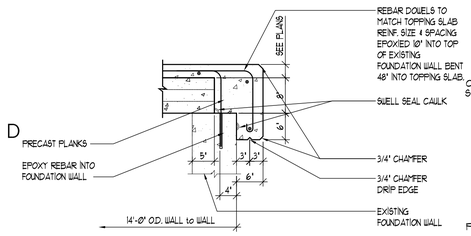
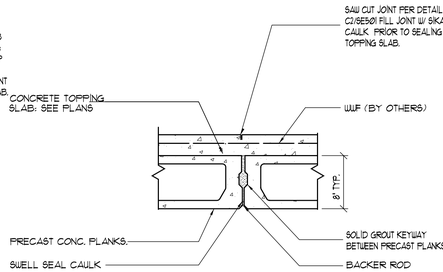
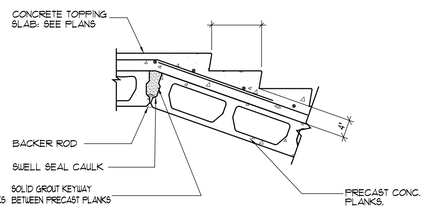


D1 CONCRETE TOPPING SLAB CONNECTION TO EXISTING WALL
Ext Fnd 5
NO SCALE



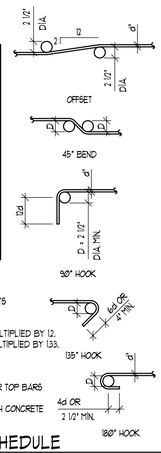
D2 PRE-CAST CONCRETE PANEL JOINT
Ext Fnd 5
NO SCALE



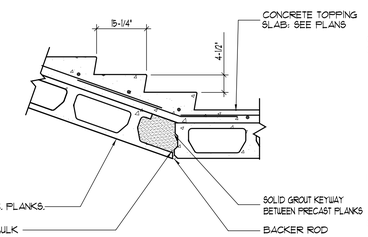
D3 PRE-CAST CONCRETE PANEL JOINT
Ext Fnd 5
NO SCALE

BAR SIZE	f'c = 3000 PSI				f'c = 4000 PSI				f'c = 5000 PSI				f'c = 6000 PSI			
	REGULAR		TOP		REGULAR		TOP		REGULAR		TOP		REGULAR		TOP	
	CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
#3	13"	17"	17"	21"	12"	16"	16"	21"	12"	16"	16"	21"	12"	16"	16"	21"
#4	18"	24"	24"	31"	15"	12"	18"	25"	14"	15"	19"	24"	13"	17"	17"	22"
#5	22"	29"	29"	38"	19"	25"	25"	33"	17"	22"	22"	29"	16"	21"	21"	27"
#6	27"	36"	36"	46"	24"	31"	31"	40"	21"	28"	28"	36"	20"	25"	25"	33"
#7	39"	51"	51"	66"	34"	44"	44"	56"	30"	39"	39"	51"	27"	35"	35"	46"
#8	49"	64"	64"	80"	42"	55"	55"	71"	38"	49"	49"	64"	35"	45"	45"	58"
#9	62"	80"	80"	104"	54"	70"	70"	90"	48"	62"	62"	81"	44"	57"	57"	74"
#10	78"	101"	101"	132"	68"	88"	88"	115"	61"	79"	79"	102"	56"	72"	72"	94"
#11	96"	125"	125"	162"	83"	108"	108"	141"	76"	97"	97"	126"	68"	88"	88"	115"

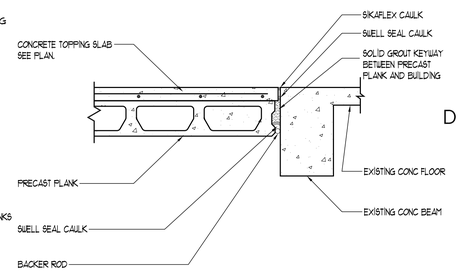
1. THESE NOTES SHALL BE USED FOR ALL SPLICES, UNLESS NOTED OTHERWISE.
2. CLASS 'A' SPLICES MAY BE USED ONLY IN CASSES WHERE 50% OR LESS OF THE BARS ARE SPLICED WITHIN THE LAP SPLICE LENGTH.
3. CLASS 'B' SPLICES SHALL BE USED FOR ALL SPLICES UNLESS THE REQUIREMENTS OF NOTE '2' ABOVE ARE MET.
4. TIES AND STIRRUPS SHALL NOT BE SPLICED.
5. a. FOR BUNDLED BARS OF THREE OR LESS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.2.
   b. FOR BUNDLED BARS OF FOUR OR MORE, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.33.
   c. INDIVIDUAL BAR SPLICES WITHIN A BUNDLE SHALL NOT OVERLAP.
   d. ENTIRE BUNDLES SHALL NOT BE LAP SPLICED.
6. FOR ALL LIGHTWEIGHT CONCRETE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3.
7. FOR ALL EPOXY COATED BARS, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3 FOR TOP BARS AND 1.5 FOR REGULAR BARS.
8. TOP BARS ARE CLASSIFIED AS HORIZONTAL BARS WHERE 12", OR MORE, OF FRESH CONCRETE IS CAST BELOW THE REINFORCING BAR.



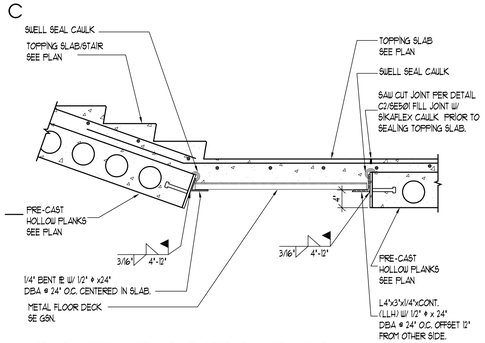
C3 CONCRETE REBAR LAP SPLICE SCHEDULE
ConcRebarLSSchd.dwg
NO SCALE



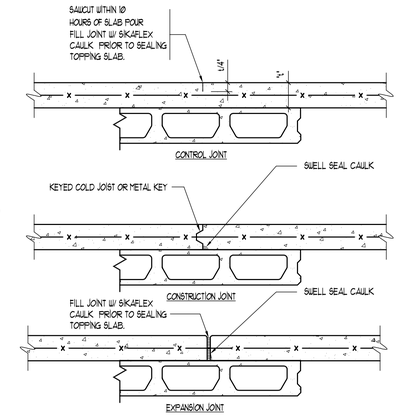
C4 FOUNDATION SILL DETAIL @ EXISTING FOUNDATION VENTS
NO SCALE



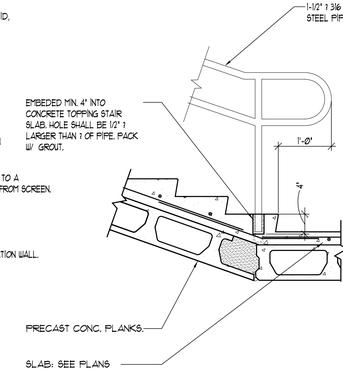
D5 NEW TUNNEL LID @ EXISTING BUILDING FLOOR DETAIL
Sc1 Col-1
NO SCALE



C1 TUNNEL LID @ELECTRICAL PANNEL
Ext Fnd 5
NO SCALE

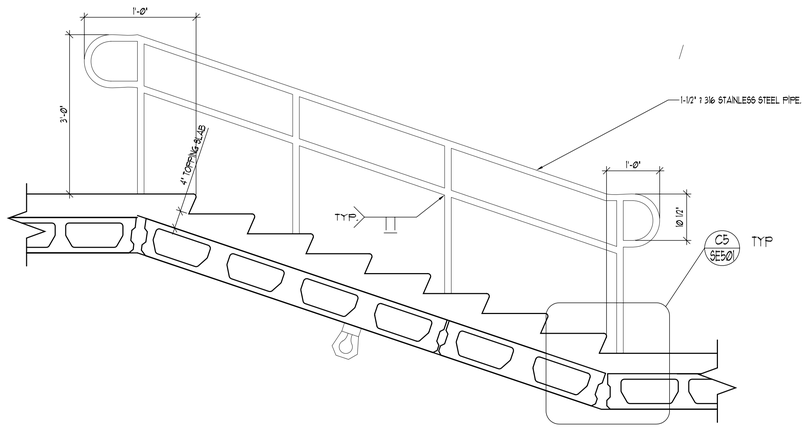


C2 CONST./CONTROL JT. IN CONC. S.O.G.
D5SGslag
NO SCALE



C4 FOUNDATION SILL DETAIL @ EXISTING FOUNDATION VENTS
NO SCALE

C5 HAND RAIL EMBEDMENT DETAIL
NO SCALE



B1 STAIR HANDRAIL SECTION
NO SCALE

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